



**MARKET DECISIONS**

RESEARCH • INSIGHT • STRATEGY

85 E Street  
South Portland, Maine 04106  
Phone: 207.767.6440  
Fax: 207.767.8158  
Email: [research@marketdecisions.com](mailto:research@marketdecisions.com)

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## Research Report

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### **Maine Department of Environmental Protection ~Non-Point Source Pollution and Storm Water Focus Groups**

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**Prepared for:**

Barbara Welch  
Maine Department of Environmental Protection

**Prepared by:**

Curtis Mildner, President, Senior Consultant  
[cmildner@marketdecisions.com](mailto:cmildner@marketdecisions.com)

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## Key Findings & Recommendations

The overall findings of this research are nicely summed up in the comments of one participant:

*Ten people here all of different backgrounds and none of us is really sure where the water goes or what happens to it. Ads like this (The sample TV spots shown) have been around for a long time; the problem is really happening and we need to do something.*  
(L)

Participants knew that bad things can get into storm runoff, but they didn't really know how big a problem pollution in runoff was or what they should be doing about it. If they knew what they should do, many would do it.

1) Participants in the groups showed little knowledge of storm water, where it went and if it was treated – and were just as likely to be misinformed as informed.

Participants have no reason to think about storm water or where storm water from their property goes. Only some felt comfortable enough to make a reasonable guess.

Those with sewers in their streets think that storm water runs there, but where it goes after that is also a guess.

Those with larger amounts of property most often think that water drains into a low area and most often down through the soil to the groundwater table.

Some participants could name streams or rivers that water from their property flowed to.

Most participants assume that storm water is treated by a sewage treatment plant, as is sewage from homes. A few thought that storm water simply flows into another body of water untreated. Treatment was thought to be a good thing and treatment was what participants expected. Some have heard of storm water overwhelming treatment plants and offered this as proof that storm water is generally treated.

Water that drains into the ground is thought to be treated naturally as sand and soil work together to filter out biodegradable and even dangerous contaminants.

*Recommendation: It is clear that most individuals lack basic knowledge about where storm water goes and so storm water is not a concern for them. In order for people to be disposed to act, they must first be aware of the issue. This suggests that a comprehensive mass communications effort is necessary before grassroots efforts are likely to have much of an impact.*

2) Most participants find it hard to believe that pollutants in runoff are as serious a problem as industrial water pollution. Industrial pollution is highly publicized, can be very evident in rivers and streams and can include very dangerous contaminants.

Participants were aware of pollution in the air that comes to the ground in the form of rain. Acid rain and fish that are too dangerous to eat because of heavy metals were impacts understood by many.

Participants were willing to accept the concept that pollution contributed by millions of individuals could add up to a lot. However, they still found it easier to believe industrial polluters were the more serious culprits.

*Recommendation: Given all the publicity for industrial polluters and the lack of communication about other sources of water pollution, it's not surprising that most first point to industries as the major culprits. This is another reason for a mass communications effort. Many believe that what they might do has little effect compared with what industries already do. Only communications can change this perception.*

3) Participants readily identified pollution that could come from their household. Oil, cleaning chemicals, fertilizer and pesticides were widely seen as the most common and dangerous. The warning labels on many of these products made their perceived danger apparent.

Thoughts on the potential danger from pet and animal waste were mixed. Some thought that pet and animal waste was natural and others noted that in places it could add up to a serious problem.

*Recommendation: It appears that individuals readily recognize the things in their house that can contribute to water pollution and they recognize the need for care in handling these. There is no need to tell individuals what is dangerous or what pollutes. What is missing is an understanding of the importance of these sources of pollution and providing alternatives such as less dangerous products and opportunities for convenient disposal of dangerous items.*

4) Participants could understand the need to be careful with dangerous substances so that they did not end up in the water. They were not as clear as to why runoff itself was to be minimized (as in "sweeping walks vs. using a hose" or "minimizing paved patios or paved areas").

*Recommendation: The danger of runoff itself needs to be explained and put into proper perspective - is all water runoff dangerous and to be prevented? Why?*

5) Some participants thought that contaminants would be removed naturally by the percolation of water through the sand and soil, as if by magic! They offered complex explanations of why this was so.

*Recommendation: The issue of natural filtering was not readily understood. Some of the recommendations for action seem to validate that filtering was important. Does filtering water through sand and soil remove any contaminants? If so, what contaminants? The role and extent of natural filtering must be specific or individuals may assume that it is too effective and not take steps to prevent pollutants from getting to the ground.*

6) How to dispose of dangerous chemicals and where to find substitutes for them isn't very clear. Most don't know where to bring chemicals or their town doesn't make it very easy for them to do so. Others don't really know what the alternatives are to dangerous chemicals.

*Recommendation: As demand is created, there needs to be an infrastructure so that individuals can readily take action. At a minimum they expect a local and convenient place to bring dangerous chemicals for easy disposal. Many would also like suggestions for less dangerous alternative products.*

7) Most thought that the runoff problem was a lack of awareness of the issue, not a lack of concern. Some wondered why the issue had not been communicated to them already through television as had so many other issues.

*Recommendation: The participants in the groups actually proposed a TV campaign to build awareness and create concern (or interest in action). They appreciated how ill-informed they were and expected this to be changed. This is sound advice.*

8) For most, recommendations that required changes in landscaping were not relevant or readily actionable and would only apply if they were undertaking a major landscaping project. It appeared that participants were more interested and committed to eliminating the sources of the pollution, rather than controlling where pollution went.

*Recommendation: The strongest opportunity for reducing pollution from runoff is reducing what ends up on the ground to be washed away. Consumers believe these chemicals to be bad, want to do something about them and they say they will - if reminded and supported. Prevention appears to be the "low hanging fruit."*

*Changing practices with respect to landscaping is a different issue. Landscaping is not frequently done and once done is not often repeated. This issue might be tackled in a different way – perhaps by influencing the "early adopter" gardeners who set a standard for creating "runoff free" gardens.*

9) Understandably, participants had a hard time with the term "Non-point source pollution." They preferred terms that made the connection to their community such as "Pollution from your neighborhood" or "storm water runoff from your neighborhood."

*Recommendation: The need for a new term to describe what you are trying to affect is obvious. "Reducing neighborhood runoff" is a good alternative. Neighborhood brings it home, and runoff is clearly understood.*

10) Participants thought that the State would be the most effective government body to work to control this type of pollution. While municipalities might be closest to the problem, they may lack the will, the technical skills and the resources to be held responsible.

*Recommendation: Participants provided thoughtful reasons why municipalities should not be responsible for reducing neighborhood runoff – in their view municipalities won't do the job.*

## Background and Methodology

### Background

Pollutants that are washed by the rain into larger bodies of water, called “non point source pollution,” are a major kind of pollution, perhaps more important than higher profile industrial pollution. Since this pollution is primarily caused by the actions of millions of individuals, this source of pollution is much more difficult to control than industrial or other “point source pollution.”

The Maine Department of Environmental Protection and the United States Environmental Protection Agency are supporting local efforts to control this pollution. These efforts utilize the creativity and energy of local advocates but the Maine DEP wanted to provide direction to maximize their effect. In order to do this, they wished to obtain information on the behaviors, attitudes and beliefs of the general public with respect to storm water runoff so that the most effective and appropriate actions can be taken.

To provide this information, it was decided to conduct focus groups, which can provide in-depth information on how people think and act and why they do so.

### Methodology

Five focus groups were conducted in four locations: two in South Portland, one in Lewiston, one in Bangor and one in Kittery.

Location	Facility	Date
South Portland, ME	Market Decisions	9-4-03
Lewiston, ME	Ramada Inn	9-10-03
Bangor, ME	Holiday Inn	9-11-03
Kittery, ME	Day's Inn	9-17-03

In total, fifty people participated in the groups: 21 in South Portland, 11 in Lewiston, 11 in Bangor and 7 in Kittery. Participants represented a range of ages (18-64) and educational levels. In addition, a mix of participants living in an urban setting, suburban setting and rural setting were recruited.

The discussion guide and screener were developed by Market Decisions in consultation with Barbara Welch and Kathy Hoppe of the Maine Department of Environmental Protection.

All groups were moderated by Curtis Mildner, a Riva Institute trained moderator.

## Limits of Qualitative Research

Research involving focus groups is qualitative research. By this we mean it identifies issues and types of responses, but it does not result in statistically meaningful allocations of responses by percentages. Focus groups cannot tell us how many consumers in a market think or feel a certain way or will be influenced if a particular message or product is introduced. Focus groups are useful for finding out why consumers feel the way that they do and for understanding the process by which they make their decisions.

It is always advisable to think of focus group findings as directional until they are substantiated by quantitative research.

## Detailed Findings

Comments (italics) are from groups as noted in the following code:

(B) = Bangor Focus Group

(P) = South Portland Focus Groups

(L) = Lewiston Focus Group

(K) = Kittery Focus Group

### Top of Mind Water Pollution Issues

Air quality, not water pollution, was mentioned most often in response to what participants had recently heard about water pollution.

Participants in all groups mentioned pollution from power generating plants in the midwest ending up polluting the air in Maine. There was substantial anger at Bush administration efforts to relax rules and allow these plants not to have to upgrade to the latest pollution control equipment. Some participants reported that Maine had very high levels of bad air and high levels of asthma because of this pollution. Many made the direct connection between pollution in the air and polluted lakes and streams.

*Air pollution washed down by the rain, acid rain. Makes its way all the way down here, they put the stacks high enough. (K)*

Participants noted the dangers of eating fish in Maine, specifically recommendations about the maximum number of fish that can be safely eaten. Participants thought this was due to mercury in the water and some related this to mercury in the air from out of state industries.

*Fish are so mercury laden that they tell you not to eat more than one fish a month from a Maine body of water. The pollution comes from the Midwest and the jet stream blows it here. (B)*

*It's especially dangerous for children and pregnant women, it's very sad. (L)*

Participants also mentioned groundwater pollution from MBTE.

Another water pollution issue included the recent Poland Spring Water suit that alleged that the water was not really from springs.

In one case a Landscaper mentioned rules on pesticides that he was now having to comply with.

In Portland, Lewiston and Bangor, at least one person mentioned efforts to eradicate milfoil during the discussion, and once this was brought up, most others noted that they had heard something about the problem. Many had heard about specific attempts to eradicate the plant from a lake, others had heard or seen advertising on prevention of the spread of milfoil.



In Bangor, participants were aware of a large industrial polluter – Holtrachem – that, over time, had dumped large amounts of pollutants into the Penobscot River. Many were also aware of runoff from deicing National Guard planes running into a local stream and affecting the water quality.

In Lewiston, participants were more aware of improvements in water quality over time, as the Androscoggin River had become cleaner as industries along the river were forced to clean up and there were fewer industries overall. One participant mentioned that a new Hilton had been built on the waterfront – a startling development for a river that was not an attraction before. The improvement in the river was source of pride.

*All Sunday on the river we saw one plastic bottle, it's amazing. (L)*

There were no specific local issues related to water quality in the Kittery group.

At least one participant in each group brought up pollution from runoff in some form.

In the first Portland group, a participant recalled beaches in Rhode Island being closed due to runoff.

In the second Portland group, two participants recalled hearing ads about soil erosion being an important pollutant. One person remembered the tag line that soil erosion is the number one cause of pollution but thought that she had heard it on TV.

In Lewiston, one participant brought up storm water runoff noting that everything on the streets ends up being washed off in the rain. Others then thought of oil in junkyards draining into rivers, and snow no longer being dumped into the river.

In Kittery, participants recalled specific news about fertilizers and runoff from parking lots.

*There was supposed to be a campaign about awareness of fertilizers and pesticides on the lawn, it runs off into the water and kills animals. (K)*

*Runoff from big parking lots in the rivers and streams. It's an issue with the Sanford Casino, which will have huge parking lots. (K)*

*All the leaking cars all summer long, when a storm hits or when a hurricane hits all the oil will drain right out the storm drains. (K)*

## **Everyday actions to reduce pollution**

Participants in groups at different locations, of different ages and economic situations all had a high level of interest in protecting the environment. While some denigrated “tree huggers,” all talked with disdain about those who did not act with care towards the environment.

Many people were proud that they recycled. Some expressed concern that their municipality made it difficult for them to do this – one example was Portland reducing the number of places that recycled items can be brought to. It appeared that recycling reinforced environmental awareness in that recyclers make a choice almost daily to do something to protect the environment.

When individuals were not able to act on their values they became frustrated. One participant recalled filling a bucket with old batteries, but after calling the town she was told to simply put them in the trash. Others recalled finding recycling centers closed and driving around to find another. They wondered why, if recycling was such a good thing, it was so difficult to do.

Maine's bottle bill was mentioned as a very effective program, even though participants said it was not initially well received. Many thought that the bill worked because the government created a financial incentive for everyone to act. Incentives such as pay to throw, deposits on cans and bottles and fees on tires were seen as acceptable ways to encourage the proper action.

Some respondents said that they wanted to act responsibly, buying low polluting products but that they did not know what these were or they were not being offered.

## **Where Does Storm Water go?**

Participants had given little or no thought to where water from their yard drained.

Some participants, especially those in urban or suburban areas, thought that water drained away into streets and then into sewers. Most participants thought that water from sewers went to a treatment plant before it went anywhere else – but many were really not sure. The idea that water goes into treatment plants to be treated is thought to be a good thing. If it didn't, it would run directly into a body of water without treatment – a bad thing.

*Ten people here all of different backgrounds none of us is really sure where the water goes or what happens to it. Ads like this have been around for a long time, the problem is really happening and we need to do something. (L)*

*It will go into the treatment plant or into a bay. (L)*

*It goes right down and into the sewer; after that it's a mystery. (L)*

*Water in the storm drains goes into the sewage treatment plant. But I don't know, would that go right into the river? (K)*

*The water goes down into the sewer drain but after that I don't really know. It could go into the river. (L)*

*It should be treated. (P)*

*Heaven only knows. (P)*

*I really don't know. (P)*

*I live up on Gotts Hill, it goes down... I'm sure that at the bottom of the hill there are sewage treatment plants. I've also heard that it also goes into streams and rivers. (L)*

Sewers were mysterious to participants. Most were unsure if household sewage and storm sewage ended up in the same pipe. Most did not know where the water from a sewage treatment plant went. After discussion and recall of storms, some participants mentioned times that storms had overwhelmed sewage treatment plants. They concluded that systems must be connected at least in part. In some cases they knew where sewage treatment outflow went because they knew where they should not swim after a storm.

*I couldn't even tell you where the drain in my street is, much less where it goes. (L)*

*I really don't know if the storm water and sewage merge and into the same system. The system only has so much capacity so if it rains too much it just goes into the river. I have a funny feeling that the systems just merged. (L)*

*I think it goes to be reprocessed and reutilized. (P)*

*The sewage treatment plant, does it treat the sewage that comes from your house or the drains under the street? (P)*

*I always pictured the drains being a separate system; I don't picture it as being treated. (P)*

Those that lived near streams, rivers or another body of water may have seen water from storms draining into that body of water. Fewer than half of participants could even guess the body of water where water flowed to from their yards, storm sewers, or sewage treatment plants. In Lewiston, residents near the Androscoggin thought that runoff ended in that river and for those in Bangor near the Penobscot thought that was the river and so on for the Piscataquis and the Mousam and Casco Bay. However, for most, the issue of where water drains is out of sight and out of mind.

*It runs to the bottom of my hill and it goes directly in the harbor. (P)*

*Actually we live right on the Penobscot – that's where it goes. (B)*

*If it was just a storm drain it would drain into the river - the Penobscot. (B)*

*I have this nice little swale that sends the water into a stream and into the Great Bay then the Piscataquis. I'm pretty careful because I raise livestock. (K)*

*Water drains into a neighbor's yard and into a culvert and into a pond – but I don't know where that drains to. (B)*

*I have a small stream so the water would go into there. (K)*

*The storm water must drain into a swampy little brook. It probably gets in the water I don't know. It probably spreads out. (L)*

*I've got a swale and it eventually goes into the river. (K)*

Some, particularly those in rural areas, thought that rain collected into pools and either evaporated or drained into the soil and was naturally filtered by sand before it reached the aquifer. Some participants believed that this filtering was very effective in removing even dangerous things from the water. In general, those in rural areas were confident that whatever pollution they might be responsible for would be naturally cleaned in this way.

*It just drains into the ground. (B)*

*Storm water collects and eventually dries or seeps in to the ground. (L)*

*The water goes down hill, and into a swamp. The water just sets. (L)*

*It goes into the ground and seeps in to the ground. (L)*

*The earth has an amazing way of cleansing itself. (K)*

*The sand and gravel filters out a lot of the oil. It percolates down through and the oil can't pass. (K)*

*How much of the gas or oil that I spill will make it to the river or stream and how much will be filtered out? (K)*

*If it hits the ground it would sink into the ground. (P)*

*Some of the runoff would go into the wetlands next door. (K)*

The views of one very well educated respondent showed how extensive this idea that the natural environment can filter bad things out of the water is. It was even thought that sewage was beneficial!

*I have this pile of weeds and I dump waste oil there. I haven't killed anything yet. Now I find that there are bacteria there that consume the oil. Nothing has really been hurt by it. (L)*

*We have healthy trees living off the sewage system. (L)*

Renters and condo residents for whom upkeep is part of fees appear to be even less well informed. They perceive themselves of having little impact on runoff pollution.

In Portland, some participants had seen marks on drains that said that the storm drains emptied directly into Casco Bay. Since not all drains had this mark, it was thought that some might go to the sewage treatment plant. They thought that in times of heavy rain the treatment plant simply overflowed into the bay. Other participants had seen such marks at Bath Iron Works and one respondent had seen the marks in San Francisco.

## **Pollution in runoff**

It was easy for participants to think of substances in runoff that would contribute to pollution. Many different items were mentioned and many mentioned were common to all groups. One participant summarized this list succinctly;

*Pretty much everything you can think of ends up in a storm drain. (K)*

Without much trouble, participants mentioned more than forty different items including many items such as batteries, tires and computer monitors which in most cases would not float.

Most frequently mentioned were any items that are toxic: oil, gasoline, pesticides, fertilizers and other chemicals.

Interestingly, many participants made the connection between air emissions and water pollution with respect to industries and individuals. Acid rain was considered an important component to runoff as was exhaust emissions from cars. Participants mentioned the soot from cars covering roads and making their way into runoff.

Only a few participants mentioned soil erosion as a pollutant.

	Portland 1	Portland 2	Lewiston	Bangor	Kittery
Fertilizer/lawn chemicals	Y	Y	Y		Y
Pesticides	Y		Y	Y	Y
Road Salt	Y	Y	Y		Y
Motor Oil/oil spills	Y	Y	Y	Y	Y
Gasoline spills/leaks		Y			Y
Pet/Animal Waste	Y	Y	Y	Y	Y
Car Cleaning Fluids	Y	Y	Y		Y
Anti Freeze	Y				Y
Air pollution coming to ground in rain/Acid rain	Y	Y	Y		Y
Cigarette Butts	Y		Y		Y
Laundry Detergent/HH Chemicals	Y		Y		Y
Pool chemicals	Y		Y	Y	
Paint/Lead/Wash Brushes		Y	Y	Y	
Car exhaust	Y	Y	Y	Y	Y
Trash			Y	Y	Y
Car Wash Detergent		Y	Y		Y

Dirty Plowed Snow			Y		Y
Soil Erosion		Y	Y		
Flashlight Batteries	Y		Y		
Computer Monitors			Y		
Diapers	Y		Y		
Leaves	Y		Y		
Underground oil tanks				Y	
Ink - newspaper			Y		
Restaurant Grease				Y	
Gun Shell Casings				Y	
Recreational Water Craft			Y		
New Road Tar					Y
Old Tires			Y		
Asphalt from Roof		Y			
Bleach	Y				
Garbage from dumpsters	Y				
Top Soil		Y			
Tire wear (rubber)		Y			
Sand		Y			
Septic Waste					Y
Old Dumps			Y		
Medical waste	Y				

## **Advertising Review**

Participants were shown commercials on storm water runoff. All of these commercials were seen as effective in raising awareness of the issue. Most often participants had not thought about runoff pollution before.

One spot, “Fish Sticks,” developed for American Petroleum, features fish sticks being cut open to illustrate where oil in runoff ends up. This one got high marks for being attention getting, but lower marks for fully defining the problem. Some thought that it was too dramatic – even gross.

*The fish isn’t really going to happen, but it does get the point across. (K)*

*To graphically depict pollution it doesn’t have to be perfect. (K)*

In another spot, a PSA for the Colorado Water Protection Project, a duck, a fish and an elk all speak about the pollution that ends up in their water. Like the fish stick spot, this one got the point across about what happens to pollution in runoff. Some thought this spot to be more fitting for Maine and less sensational than “Fish Sticks.” Others thought that it was inconsistent to warn about pet wastes while showing an animal in the water. The ad did make a direct connection between something participants cared about, wildlife, and runoff pollution.

*We’re hurting the animals and the fish. (L)*

In another ad, produced for The San Diego Storm Water Pollution Prevention Project, ducks representing pollution accumulated to a flock and paraded to the sea. This ad was seen to be more effective in that showed how many small individual actions add up to a serious pollution problem. It also demonstrated that storm water was not being treated before it made it to the sea. Some thought that it would not gain enough attention from viewers though.

*You’ve go to watch what you do. You compound it. There’s so many recycling places for oil you shouldn’t do that. (L)*

*The first one shows flow of the water. (L)*

*The ducks, a little bit here and a little bit there ends up to a lot. (B)*

*The ducks show the pollution origin and how it accumulates. (K)*

*How quickly it adds up, you start with one duck and they all add up. (K)*

*You don’t really see it, but the duck makes it visible. (K)*

*I just assumed that it was being treated; I don’t know what I would have done with my pool water. (B)*

*All that waste goes into the rivers. (B)*

*It all goes somewhere, just because you don’t see it doesn’t mean it’s gone away. (L)*



Overall, participants were very supportive of the use of advertising to get the point across, and some thought that it was critical to do so. Others thought that it was important to give people information on what to do and perhaps how (and where) to do it. Making sure that people knew where to bring chemicals is one example.

*I never thought of motor oil from cars. (B)*

*What's the point to make us think, you have to give us an alternative. Spots should show where to bring things. (B)*

*Give us an alternative, what to do. (B)*

## **Significance of Pollution in Storm Water Runoff**

Participants were divided about how significant pollutants from runoff were as contributors to pollution overall.

*I don't think it's that big a problem. (B)*

*If you look at that list, it's a big problem; if we sat here we'd get a couple of sheets on that. (K)*

It was easiest for many to believe that industries were the biggest contributors to water pollution. Participants noted the publicity around larger polluters and many recalled specific problem industries their area. Some also noted the deadly nature of some of the pollutants from industry.

*I think its more the industrial polluters, we're contributing, but they have heavier stuff. (K)*

*Most of the rivers that have had problems, as soon as you remove the plant, the problem is cured. (K)*

*I think the industrial polluters are dumping far more pollution. (K)*

*I think of all the citizens in Old Town and then all the pollution from the paper plant. (B)*

*If I didn't work in Bath Iron Works, they put in more pollution in a day that I do in a year. (L)*

*Industrial polluters are the ones making the majority of the pollution. Just the rain from my yard is not the industrial. (L)*

*Unless everyone is burying asbestos, they can't be as much of a problem. (B)*

*It can't be, pet waste is biodegradable, but chemicals don't go away. A little bit of weed killer isn't going to pollute the entire state. The industrial problem is far greater. (B)*

After considering the question, some suggested that individuals could also be significant contributors. Others were at least open to the idea. Some mentioned that industries were now carefully watched so they have less of an opportunity to pollute. Others mentioned that there were many more individuals than industries, so many small acts by millions of people might add up to more than the industrial acts.

*There's tons more people than there are industries. Everything we do every day. (K)*

*A little here and a little there adds up to a lot. (B)*

*Probably there's more industrial pollution than there is from the average citizen but they are both a problem so there isn't much importance to picking one as more important. (B)*

*I would say no, but there is a lot of pollution by citizens, it comes pretty close. (L)*

*I think it's deceiving because you think of a company polluting but there are 300 million people who are doing the things we are talking about. (L)*

*It's kind of tough, how many people are there on a nice summer day washing their cars? There's always someone doing something outside on a nice day. You can't say with 100% certainty that industrial polluters are the major cause. On the other hand, EPA has loosened restrictions on Industry. (L)*

In the end, many agreed that whether industries or individuals polluted more was not important, taking action was.

## **Runoff Pollution Prevention Actions**

Participants organized actions they might take into different groups of priorities. One group included prevention activities - reducing or eliminating the use of, or being more careful about disposal of substances that were clearly dangerous for the environment. Most participants saw these as things everyone could do, most of the time. Another category of activities included landscaping to trap or control runoff. These actions were seen to be relevant only to some people and only at some times.

### **Dangerous Substances/ Routine Actions**

Actions like disposing of chemicals and oil carefully and reducing pesticides and fertilizer appeared to address situations that were obviously bad for the environment and were also things that participants could readily accomplish. These items made it to the top of almost everyone's action list.

#### Dispose of household chemicals/solvents and motor oil safely and not down a drain or sewer

Participants readily understood the dangerous nature of oil and many household chemicals. However, a lack of convenient disposal discouraged action. Some participants noted that their town had pick-ups for chemicals only once a year so they had to store chemicals for many months. Others thought that their town had discontinued even this. Other towns had no programs at all. As a result, even the environmentally conscious admitted pouring chemicals down a household drain or in a yard from time to time.

Some said they would not know what to do with motor oil, most said that they had their oil changed in a garage and they assumed that this oil was recycled.

#### Minimize use of fertilizers

There appeared to be widespread awareness of the effects of fertilizer on water quality. Many understood the connection between perfect lawns and over fertilizing and took pride in the fact that their lawn was not as green as their neighbors. Some participants mentioned the "danger" flags put on lawns after a lawn service had treated a lawn, wondering how the services even get away with putting such dangerous substances on lawns. They also tended to question the judgment of those who use these services.

*How many people have the lawn services that come and they spray and spray. The family has a beautiful garden. These are professional people but they think that what they do doesn't matter. (B)*

#### Eliminate (or minimize) pesticide use

It is unlikely that use of pesticides would be eliminated; such use of pesticides is viewed as a necessary evil. However, most clearly do not like to use pesticides, noting that these products have labels with warnings that clearly say that these chemicals are dangerous. Most appear to think of pesticides as direct health threats so they are avoided if at all possible.

### Bury or flush pet wastes

Participants that lived in urban areas were more likely to be concerned about pet wastes. Dog owners were likely to pick up after a dog is walked and cat owners with litter boxes most often flushed or put litter out in the trash.

Those that had larger yards or lived in rural areas were not at all concerned about pet wastes and were more likely to just let their pets “go” in the woods, thinking that the natural environment would filter out these natural contaminants. One participant noted that wildlife leaves its excrement in the woods – and we don’t think of this as pollution and aren’t concerned about it.

*I think pet waste is kind of natural, if they go out in the back forty, I’m not going to pick it up. (L)*

*I’ve got a half a truck load of black angus steer manure, no way is a dog going to accumulate that much. That goes on my garden. What a dog does is fairly biodegradable. It doesn’t get into the water stream at all. (L)*

*Pet waste (laughter) I didn’t know it was such a problem, it’s the same thing as fertilizer. (B)*

*Organic stuff is going to happen. (K)*

*Moose stand in streams; we have a lot of wildlife in the state. (B)*

*The moose was standing in the water, and he was probably pooping there. (B)*

*What do tree huggers do with their wastes? (L)*

### **Landscaping/ One Time Actions**

Actions that required landscaping or reconstruction were another category. The case for these changes was not as clear as the reasons for these actions were not obvious. Some thought that these actions would reduce water flow – but the value of this was unknown. Others thought that the landscaping changes might help to filter contaminants.

Obviously those with no plans for changes to their yards or no yards were not inclined to take these actions. The lack of a clear and understandable rationale made action more unlikely.

#### Landscape with native plants

Most did not know what “native” plants were or where to get them. Some participants thought that native plants referred to plants present in areas left untouched and pointed out that it was difficult to leave an entire property untouched.

#### Landscape with pest resistant plants

Participants thought that eliminating pesticides was a very good idea but they did not know what such plants were or where to find them.

#### Minimize the size of lawn areas

Participants thought that this was not likely to happen once an area was landscaped. That is, this is an issue to be considered during initial design and construction of a home. Once a home is built, changes are unlikely.

#### Plant and/or retain trees, shrubs, and groundcover between developed areas and waterways (ditches, swales, shorelines)

Again, a significant landscaping issue that requires assistance to get right and a more complete recommendation.

#### Minimize pavement on your property

Another initial design and construction landscaping issue. Also there was confusion as to why pavement was more or less of a problem than lawns and how the open soil in gardens fit into the problem. Was it better to have pavement or open garden areas?

#### Crown and shape dirt/gravel driveways to shed water into vegetated areas

Another initial design and construction landscaping issue.

#### Re-route gutters so that the rain does not go into the sewer system

Not practical and not seen as important. Many participants thought that water filtered into soil. Others thought that it would be difficult to do this. Not within the realm of ordinary homeowners.

### **Less Compelling or Confusing Actions**

The reasons for other suggested actions were not so clear, and other actions did not appear to be important. Participants asked, will this really make much of a difference?

#### Wash your car on the grass instead of the street or your driveway

Made sense to some who thought that the grass would filter soap, others did not easily make the connection. Obviously, not everyone had lawns or could park a car on them to do their washing. Some thought that this issue was trivial – too few cars were washed to make a difference.

#### Wash your car at a carwash.

Most did not know why this might be good for the environment. After discussion and consideration some suggested that this was because a car wash recycled water or otherwise treated it before letting it go into the sewer or body of water.

Inspect and repair leaky sewers and septic systems

Most had no idea what to look for or how to check. Women said they would not go in a basement to look. Men thought that a malfunctioning system would make itself evident without inspection. Asking people to fix this would not be necessary – the smell would drive action.

Stabilize soil so bare soil is not exposed including ditches, yards, etc

Most thought that this was obvious and anyone with a garden would know that they had to do something to keep water from washing away the soil. Participants noted that the relatively recent attention to fences in new construction to curb erosion. Thought that this was a good idea – but not something they could personally impact.

When gardening on steep slope, terrace and plant across the slope

Again participants thought that this was common sense and ordinarily done.

Sweep lawn clippings and debris from patios and sidewalks instead of hosing them

Washing sidewalk and patios was seen as wasteful of water and indicative of someone who is out of touch. However, how this related to pollution was not at all clear to participants.

Do a soil test and only use the amount of fertilizer needed.

This action fell to the bottom of the things many participants would do. Many would not fertilize so a test was not necessary. Other's wouldn't know where to bring a soil sample to be tested or wouldn't go to the trouble of doing that.

## **Government Responsibility**

Participants quickly translated the question of who's responsible for controlling or regulating pollution to, who pays?

It was thought that individuals might be responsible for this type of pollution – and towns might be closest to the action - but that towns would be ill equipped to take this on. They would not have the resources, skills or the inclination to do a good job at it. The state was seen as the most logical enforcer of laws or supporter of the efforts of local communities.

*The local towns don't have the money or the expertise to trace these. (K)*

*The state has to have the responsibility for controlling. (K)*

*It would depend on the size of the town. (K)*

*It should start in the local towns but it shouldn't burden local communities. A lot of communities cannot even support a constable. (B)*

*There's so much storm runoff that it would be very costly to deal with it. (B)*

*I'm not convinced the local government knows where the water goes to. They may not be educated. (L)*

*Local people might question spending on pollution. (L)*

*Local government does control it somewhat. They set the planning rules. (L)*

*The government could do local groundwater tests to find out what is in the water. (L)*

*Maybe towns should put out newsletters that say where the water goes from various places.*



## **The Term Non- Point Source Pollution**

Most participants could only guess what the term “non-point source” meant but their guesses came very close.

*Does it mean from a non-specific source, when you can't pinpoint the source? (K)*

*Less blatant than from a factory, an accumulation of things. (K)*

*Non-point means you don't know where it comes from. (L)*

*Is that like the stuff that goes into the storm drains? (L)*

*Not from a specific pipe. (B)*

Participants found the term awkward and came up with a number of ideas for improvement.

*Call it “many small things.” (L)*

*What about “all sources of pollution.” (L)*

*Call it “all of our responsibly.” (B)*

*Neighborhood makes it closer to home. (K)*

*People can relate to water pollution from your neighborhood. (K)*

*Runoff from your neighborhood combines things. (K)*

The strongest associations appeared to come from using the word “neighborhood,” which brought the issue close to home and the words “storm runoff or runoff” which describes in a simple and understandable way what it is.

## **Encouraging Corrective Action**

Most participants readily recognized how little they knew about storm water runoff, how important runoff might be as a pollutant and wanted more communication and education about the issue and what they can do about it.

*I really feel if you give people information and you make it relatively easy they will act. And with the peer pressure from other people, people do change. (K)*

*People who do care want more information to try to change things. (B)*

*For most, education would help. (B)*

*It's within the last few years that we've been putting out paper, cardboard, cans and glass. (L)*

*In LA we recycle 55-60% because we are informed. (L)*

*If they get more information on what they can do, they will do it. (B)*

*If I knew what I was supposed to do, I would do it. (B)*

*We need more information; if people are informed about it they will think about it. (L)*

*We need more useful information (L)*

Some participants were less optimistic, thinking that getting people to act would be the problem.

*People are uninformed, inattentive, and unmotivated. (L)*

*I don't think it's a matter of information, it's a matter of motivation; people don't always do the right thing, smokers smoke...I don't have the answer. (L)*

*Only a percentage of people will be concerned enough to be educated. (B)*

Some participants called for more aggressive action, including banning substances and practices that are bad for the environment. The idea of financial incentives (either deposits or subsidized low impact products) was supported by many.

*The government hasn't started putting limits on what can be produced. Are the people at Scotts so powerful that they can prevent this? Why can't they phase out these dangerous chemicals? (K)*

*Most people that get these chemicals or these lawn services assume that it's okay because it's legal. (B)*

*If you make it cost effective for people to be more careful, we will. All we needed was more information. (K)*

*You're going to be careful because it hits you in the pocketbook. (K)*

*A lot of businesses make a lot of money, now there's a cleanup. I don't think the family has to clean it up. There should be a means of holding money aside to do the cleanup afterwards. (B)*

Many participants called specifically for TV campaigns to inform individuals that pollution from runoff is a problem. They mentioned older spots like the "Crying Indian" or "This is your Brain on Drugs" to point out the long lasting effects of advertising.

*Need visual something on TV. People will start paying attention once they are educated. (L)*

*We need more education, we need more TV spots. There should be more reminding people about what is going on. (L)*

## **Labeling Storm Drains**

In some of the groups, labels on storm drains were brought up by participants during the discussion. In other groups, it was brought up specifically for discussion. Most participants were intrigued by the idea. The labels would end the mystery of where water goes and they would serve as a reminder that what is in storm water was something to be concerned about. Of course, some pointed out that the labels might not be visible from where someone was dumping, or they might simply be ignored.

*I totally agree, if every drain had a warning label, you'd be like oh, and be more careful. (K)*

*If the drain was labeled, I would pay attention. (K)*

*San Francisco has these big warning labels and they made me look when I was out there. (K)*

*You would hope so. (L)*

*I agree, if every drain had a label I'd pay more attention. (L)*

*No one pays attention to the drains around Bath Iron Works. If you drain something at the top of the hill you don't know which drain it will go. (L)*

## Appendix 1 - Moderator's Guide



### NPSP & Storm Water Focus Groups Moderator's Guide

**Final - September 4, 2003**

#### Focus Group Introduction

Hello everyone! Welcome, to Market Decisions, it's a pleasure to have you all here. My name is \_\_\_\_\_ and I will be moderator for tonight's focus group discussion. We are going to be spending about an hour and a half together talking about the environment.

First, let's talk a little bit about focus groups. Focus groups are simply group discussions about a product, a service or a program. You probably have participated in other types of research, such as mail surveys and phone surveys, but clients like focus groups because they allow us to hear from directly from people like you about their opinions, attitudes and beliefs.

Focus groups work best when you do the talking. Our client really doesn't want to hear what I have to say. I'm here to pose questions, to keep us on track, and to make sure that we hear from everyone.

I find that in group discussions, when one person speaks others are reminded of things they want to say – to add to the train of thought or to express another point of view. That's great, your job is to speak your mind. And we do want to hear from you especially if your ideas are different.

We don't expect that you'll all agree with one another and we do not need to come to a consensus on any topic. There are no right or wrong answers, we want to all your thoughts and opinions.

This room has been set up especially for market research groups like this one.

I'd like you to notice the microphones. We'll be audiotaping and videotaping this group.

We do this so that I can review your remarks before I write my report and so that I don't have to try to write everything down while we're speaking together. I need to be engaged in the conversation and it is hard to follow what people say if I'm writing down everything you say, so the videos are basically for note-taking purposes.



But ;please, do not worry; none of you will be on the 11 o'clock news or on candid camera as a result of participating in this group. These tapes will be used for research purposes only. Also, behind me is a mirror through which people can observe groups like this one. We do have some observers tonight, and they are here because they're interested in your ideas and opinions.

To allow conversation to flow more smoothly, I'm going to offer the following ground rules so that we can all be moving in the same direction.

- 1.) Please speak one at a time and in a voice as loud as mine.
- 2.) This session is being taped so that I can write an accurate report, not of who said what, but of what got said. None of your names will be used in this report.
- 3.) I need to hear from everyone during the course of tonight's discussion, especially if you have a different point of view, but you do not have to answer every question that I ask.
- 4.) I may need to cut you off at some point to move onto a new topic because we do have a lot to cover tonight. I want to apologize in advance for this.
- 5.) You do not need to address all your comments to me to get them on the table. You can respond directly to what someone says, and I encourage you to respond to each other's comments, but please avoid having side conversations with your neighbors.
- 6.) There are no wrong answers in market research, just different opinions. We are looking for different points of view. Say what is true for you, even if you are the only one who feels that way. Don't let the group sway you and don't sell out to a strong talker or to group opinion.
- 7.) We will be observing the no smoking rule tonight.

Why don't we go around the room now, please introduce yourself – use your first name only, say the town where you live and what kinds of thing you like doing outdoors this time of year.

Thank you, -----, and thanks for joining us tonight

Well let's get right into the topic now.

### **INTRODUCTORY QUESTIONS**

*Notes: These questions are intended to be easy to get the discussion going and to get people thinking about their role in pollution.*

We are going to be talking tonight about water pollution. What have you heard in the news recently about water pollution?

What else comes to mind when you think about water pollution?

Now let's talk a bit about you. What kinds of everyday things do you do that affect water pollution?

## **DRAINAGE DISCUSSION**

*Notes: We suggest that a good way to understand how aware people are with their personal role in storm water pollution is to first get them thinking about where the water goes that runs from their property. Then to get them to describe what might be in the water that runs away.*

Think for a moment about how water moves away from your property. How does it move away from your property? Are there storm drains, drainage ditches or what?

Where does the water go?

PROBE: Specifically, what stream and river does it go to?

Let's do a count. Put your hand up if you are pretty sure about the stream AND river that runoff from your yard goes to. COUNT HANDS.

PROBE: Does storm drain water go to a sewage treatment plant first? Is storm drain water treated in any way? What about water in ditches - is it treated in any way?

What kinds of things might be in the rainwater that washes from your property to the drainage? LIST ON FLIP CHART.

Which of these do you think contributes the most, overall, to pollution? Please write down the one you pick. OK, which one did you pick and what is your reasoning?

Here's another question. Think of industrial pollution and the pollution from your yard. Which one contributes the most, overall, to pollution?

## **TV SPOTS**

Show 2-3 TV spots.

What is the message of the ads?

Believable message?

Are the ads convincing?

## **CONSTRUCT TESTING**

*Notes: This section is intended to help us understand how people think – and does so by expressing different points of view, starting with an extreme one – and asking for reactions.*

Now I am going to present some statements, one at a time. For each one I will be asking what you think of it.

PRESENT EACH ONE OF THESE IDEAS FOR DISCUSSION.

- 1) Everyone, millions of citizens allowing pollution from rain runoff in their yards create a greater pollution problem than all the industrial polluters.
- 3) People are lazy and sloppy so it will be difficult to get individuals to change to reduce pollution from runoff from their yards.
- 4) I don't think much of the water run off from rain in my yard. But I wouldn't dump \_\_\_\_ in a stream. But when I leave \_\_\_\_\_ in my yard to run off with the rain, that's what I am doing.
- 5) Local towns have the responsibility for controlling non-point source pollution since only local government understands where water goes and can take action in the right places and with the right individuals.
- 6) If every drain had a label that said where the water ends up in, then people would be more careful about what they dump.
- 7) All we need is more information. People would change if they know what the bad things that contribute to pollution are.

### **REVIEW LIST OF THINGS TO DO TO PREVENT POLLUTION FROM RUNOFF**

*Notes: Getting to specifics is helpful to find out what is believable and what people are willing to do.*

PASS OUT LIST OF 18 ITEMS FROM EPA FOCUS GROUPS

Please look at each one of these. If you have a question on any of these or any part of these, put a question mark near where you have the question.

Now put them in order – the ones you are most likely to do first, and the least likely to do last.

### **COMMUNICATIONS**

*Note: This section tests awareness of communications as well spokespersons and the materials themselves.*

What organizations are advertising or communicating about non-point source pollution?

What have you heard?

ASK ABOUT PROGRAMS SPECIFIC TO EACH AREA. EXAMPLE: CASCO BAY PROJECT-MARKING OF SEWER DRAINS, ETC

Think about whom might be a credible communicator for these issues. Who would you believe?

PROBE: Why do you find these people believable?



What would you say is the best way to keep you informed or to better inform people in general about the danger of non-point source pollution?

How local does a communication need to be? Just for an area of town? A river shed?

Let's review some actual communications materials. What do you think of these?

DISTRIBUTE SAMPLES

## **NON-POINT SOURCE POLLUTION**

*Notes: We are proposing to test the term "Non-Point Source Pollution" and see if there are better alternatives.*

Have any of you heard of the term non-point source pollution? Please raise your hand.

What does the term mean?

What would be a better term for bad stuff that gets into runoff from rain?

What about these terms? Do these terms make more sense?

- 1) Storm water runoff
- 2) Storm water pollution
- 3) Water pollution from your neighborhood.

## **WHO'S RESPONSIBLE?**

*Notes: Here we want to understand the level of personal responsibility and credible "enforcers."*

Who is responsible for controlling or preventing non-point source pollution?

PROBE: Those...

- 1) Who make items that end up polluting,
- 2) Individuals like you,
- 3) Towns,
- 4) The state,
- 5) The Feds?

Does anyone have town sewer? How is the amount that you pay figured? Most places pay based on water use, the more water you use the more you pay for sewer to clean it up.

What about storm water? How can the amount spent on clean-up be calculated?

What about a certain amount per acre?

Who pays?

## **WRAP-UP**

*Note: This section is a chance for everyone to make their final comments based on all the things they have thought of or heard in the groups.*

Suppose that your neighbor or friend is on a town committee to help reduce storm water pollution – they are under the gun to get this done. He or she asks you – what do you think I should be focusing on?

## Appendix 2 - Screener

### DEP FOCUS GROUPS MARKET DECISIONS

Date \_\_\_\_\_

Interviewer name/ID \_\_\_\_\_

<b>Respondent Name:</b>
<b>Respondent Phone #:</b>
<b>Respondent Address:</b>

Hello, this is \_\_\_\_\_ from Market Decisions, a professional research firm in South Portland. Please be assured that I am not trying to sell you anything. We are conducting a focus group session with residents in your area on Thursday, September 4<sup>th</sup> on behalf of the Maine Department of Environmental Protection. If you qualify, you will receive \$50 in cash for participating in the 2-hour session. Again, this is strictly research - may I ask you a few questions to see if you qualify?

#### 1. RECORD GENDER – DO NOT ASK!!

- ☐ MALE
- ☐ FEMALE

#### 2. First, does anyone in your immediate family for a marketing research firm or advertising agency?

- ☐ YES      **TERMINATE**
- ☐ NO
- ☐ DK      **TERMINATE**
- ☐ REF      **TERMINATE**

**3. How important, on a scale of 1-5, where 1 means not at all important and 5 means very important, do you feel it is to protect the environment?**

- ☐ 1 – NOT AT ALL IMPORTANT
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 – VERY IMPORTANT
- ☐ DK
- ☐ REF

**4. Do you...? *READ RESPONSES***

- ☐ Own your own home
- ☐ Rent
- ☐ DK        **TERMINATE**
- ☐ REF        **TERMINATE**

**\*\* RECRUIT A MIX\*\***

**5. How would you describe the location of your residence? *READ RESPONSES***

- ☐ It is an urban setting such as downtown or in a city
- ☐ It is a suburban setting such as a subdivision with similar size houses nearby
- ☐ It is a rural setting with houses far apart and lots of open space, forests or farms
- ☐ DK
- ☐ REF

**\*\* RECRUIT A MIX OF ALL THREE LOCATIONS\*\***

**6. What is your age? *READ RESPONSES***

- ☐ Under 18    **TERMINATE**
- ☐ 18 – 34
- ☐ 35 – 49
- ☐ 50 – 65
- ☐ Over 65    **TERMINATE**

**\*\* RECRUIT A MIX\*\***

**7. What is the highest level of education you have completed?**

- ☐ Elementary School
- ☐ Some High School
- ☐ Graduated High School or GED
- ☐ Some college, Community College or Tech Graduate, Associates Degree
- ☐ 4 year college/Bachelor's degree
- ☐ Graduate degree
- ☐ Post graduate degree
- ☐ DK           **TERMINATE**
- ☐ REF           **TERMINATE**

**\*\* RECRUIT A MIX\*\***

<b>INVITATION</b>
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**[IF MEET QUALIFICATIONS, CONTINUE]**

We would like to invite you to participate in a focus group discussion with about ten other people concerning issues about the environment. A professional moderator will lead the discussion and there is no sales effort involved. No preparation is required – we just want to hear your opinions.

**\*\* IF THEY WANT TO KNOW WHO IS SPONSORING THE FOCUS GROUPS:** The Maine Department of Environmental Protection is sponsoring the groups.

The group will last for about 2 hours and it will be held on Thursday, September 4<sup>th</sup> at the Market Decisions facility here in South Portland on 85 E Street. The times that we have available are: **CHECK ONE**

	<b>5:30 PM</b> – Thursday, September 4 <sup>th</sup>
	<b>7:45 PM</b> – Thursday, September 4 <sup>th</sup>

You will receive **\$50 in cash** at the end of the session and your name will not be used in any way. The discussion will be audio and videotaped – but this is just for research purposes and will only be used by the research team. Sandwiches, snacks and beverages will be served.

Will you be able to take part in this research discussion?

- ☐ NO
- ☐ YES - **READ BELOW**

Please arrive 15 minutes early so that we can sign you in and so you can enjoy some food. So we can send you a confirmation letter and a map to our facility, may I please get your name and address? **RECORD ON FRONT PAGE.**

As these are small groups and with even one person missing, the overall success of the group may be affected, I would ask that once you have decided to attend that you make every effort. If for any reason you are unable to attend, please give us a call. This will enable us to find a replacement. You can contact Jen MacBride at 207-767-6440 extension 100. We look forward to your participation. Again my name is \_\_\_\_\_. Thank you for your time, Good night.

Page: 8

[KH1] Good – like this.

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[KH2] Wonder if we should ask “What might you be willing to do? What could your town or MDEP do to encourage you to do these things? Should we show them a few media products for their reaction?

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[KH3] I am wondering if we should give up on the term nonpoint source pollution and go to polluted stormwater or polluted stormwater runoff? If we are going to test terms – I think stormwater is the better choice to see what they think of. Barb what do you think? I agree – but recommend we use “stormwater runoff” rather than “polluted “stormwater

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[KH4] Good – like this.

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[KH5] Should you probe this at all? Like why would they believe this person – or can we just assume we know the answer from previous focus group?

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[KH6] I am not sure I understand these ...

Page: 36

[KH7] Should we say the Commissioner of Maine DEP? Of the Head of EPA? And not use a name – but say she (since both are women) ?